

COLLECTIONS

FOR

AN ESSAY

TOWARDS A

MATERIA MEDICA

OF THE

UNITED-STATES.

BY BENJAMIN SMITH BARTON, M. D.

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PART SECOND.

— hanc etiam, MÆCENAS, aspice partem.

PHILADELPHIA:

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1804.

DISTRICT OF PENNSYLVANIA.

TO WIT:



BE it remembered, that on the fourteenth day of February, in the twenty-eighth year of the Independence of the United States of America, Benjamin Smith Barton, of the said District, M. D. hath deposited in this office, the Title of a Book, the right whereof he claims as Proprietor, in the words following, to wit:

“ Collections for an Essay towards a Materia Medica of the United States. By Benjamin Smith Barton, M. D. Professor of Materia Medica, Natural History, and Botany, in the University of Pennsylvania. Part Second.

“ — Hanc etiam, Mæcenæ, aspice partem.”

In conformity to the Act of the Congress of the United States, entitled “ An Act for the Encouragement of Learning, by securing the Copies of Maps, Charts and Books, to the Authors and Proprietors, of such Copies, during the times therein mentioned, ‘ And also to the Act, entitled “ An Act, Supplementary to an Act entitled “ An Act for the encouragement of Learning, by securing the Copies of Maps, Charts and Books, to the Authors and Proprietors of such Copies, during the times therein mentioned, and extending the Benefits thereof to the arts of Designing, Engraving and Etching Historical and other Prints.”

D. CALDWELL,

Clerk of the District of Pennsylvania.

TO

JOHN COAKLEY LETTSOM, M. D.

FELLOW OF THE ROYAL SOCIETY OF LONDON, &c. &c.

DEAR SIR,

YOU have been pleased to express yourself favourably respecting the First Part of this little work. But it was not this circumstance that has led me to inscribe this Second Part to you. My inducements to do this, are of a higher and a different kind.

YOUR attentions to me, during my residence in London, in the year 1787, were those of a kind and affectionate friend, and cannot readily be forgotten. Nor have you withdrawn your attentions, notwithstanding the distance by which we are separated from each other.

SOME public tribute of respect is due from Americans to one who has so long, and on so many occasions, manifested his attachment to the United-States. The tribute which I now pay is, indeed, a very feeble one : but it is paid in the warmth of feeling friendship.

A LARGE portion of respect is due from the world to those, who devote their fortune and their time to the promotion of science, and the extension of the godlike empire of benevolence. Your enemies will not deny your

merits in these respects. Your friends are incapable of disguising or withholding their sentiments, on the subject.

ATTACHED, as you are, to every branch of medical science ; sensible, as you must be, of the imperfections of medicine, and ardently anxious for its further improvement, I will flatter myself, that you will peruse, with some satisfaction, these imperfect *Collections*, a mass of mere mishapen materials, out of which, at some future period, a part of a more regular AMERICAN MATERIA MEDICA may be constructed. Whether I shall live to take any part in the building, is extremely doubtful. The edifice is one, however, to which I look forward with an ardent zeal. A belief that I may *possibly* behold it, will serve to stimulate me to new and other labours, in this walk of medical science.

WITH the most sincere wishes for your health and happiness, and for the continuance of your useful labours and exertions, I remain,

My dear Sir,

Your obedient and

Obliged friend,

BENJAMIN SMITH BARTON.

Philadelphia,
February 10th, 1804.

P R E F A C E.

I EXPERIENCE some degree of pleasure in being able to fulfil one of my literary promises. I present to the public, a SECOND PART of my *Collections for an Essay towards a Materia Medica of the United-States*. I am not very anxious about the fate of the work, and therefore, I shall not offer any formal apology for its imperfections. These will be readily perceived by the reader of any experience.

IMPERFECT, however, as is this Second Part, I hope the student of medicine and the young practitioner, for whom principally it is intended, will find it not less interesting than the preceding part. It contains additions to many of the articles which are mentioned in the former portion of the work, besides facts and observations concerning other articles, which are either entirely unnoticed, or merely named, there. Some of the newly-named articles have never before been noticed in any work relative to the *Materia Medica* : such are *Myrica cerifera*, *Prinos verticillatus*, *Hydrastis Canadensis*, *Frasera Walteri*, &c. How far these are worthy of the attention of physicians, must be left to others to determine.

To render the work somewhat more useful, I have interspersed it with occasional practical remarks. Some of these remarks, I am very ready to allow, are not necessarily introduced into the work. Such are those respecting Arsenic, and Digitalis. But it will be recollected, that I am not in pursuit of any thing like a methodical or regularly-digested work : and if any value be attached to the remarks, I shall cheerfully submit to be censured for my want of order and arrangement, in the management of my subject.

THE principal, and indeed only, object which I had in view in composing the First Part of this little work, has been, in some measure, accomplished. I WISHED TO TURN THE ATTENTION OF OUR PHYSICIANS TO AN INVESTIGATION OF THE PROPERTIES OF THEIR NATIVE PRODUCTIONS. Already have I had the satisfaction to perceive the useful tendency of my labours. Several of the vegetables which I had mentioned, in the *Collections*, have been examined, with care and ability, by graduates in the University of Pennsylvania, who have thus put us in possession of a large body of useful information concerning those vegetables. It is unnecessary to mention, in this place, the titles of the dissertations to which I allude. Most of them are referred to in the present publication. Some of these dissertations reflect honour upon their authors ; and must evince to the world, that an important branch of natural history and of medicine is making rapid advances among us. It is not one of the least pleasurable circumstances of my life, that I have been, in some degree, instrumental in directing the medical students of the United-States, to a few of those objects, which have since solicited their attention.

IN the present portion of the *Collections*, I have called the attention of the student to other objects of the American vegetable kingdom, concerning which I am anxious to receive more extensive and more correct information. My various pursuits do not permit me to enter minutely into an investigation of the properties of the articles which I mention. Indeed, I wish it to be understood, that some of these articles have never been employed by myself in practice ; and, consequently, that my information concerning them has been derived from the experience of other persons. It is obvious, therefore, that I cannot always vouch for the truth or accuracy of the observations, which I detail, concerning the properties and effects of our vegetables. But neither could I have vouched for their truth and accuracy, even though I had related them from my own experience. For where is the candid physician who will not confess, that he often errs ? Where is the physician who will not acknowledge, that in the course of his practice, he has often ascribed effects to medicines, which those medicines did not produce ? EXTRAORDINARY (PROVIDED THEY BE SOLITARY OR RARELY OBSERVED) EFFECTS OF MEDICINES, IN THE CURE OF DISEASES, SHOULD BE RECEIVED BY THE PHYSICIAN, WITH NEARLY THE SAME HESITATION WITH WHICH THE PHILOSOPHIC NATURALIST OR HISTORIAN, RECEIVES MIRACLES INTO HIS COLLECTION OF WELL-ASCERTAINED FACTS.

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THE following observations form a part of one of my Introductory Lectures. I have thought that they might, with some propriety, be introduced in this place.

“ IT is a trite observation, that every country possesses remedies that are suited to the cure of its peculiar diseases. The greater number of those who have adopted this opinion, have imagined, that the principal portion of indigenous remedies is to be found among the vegetables of the countries in which the diseases prevail.

“ THIS observation, in a limited degree, is undoubtedly well founded. But the universality of the position may, I think, be called in question. Man is subject to many diseases, both of body and of intellect, for the cure of which it would seem to be a part of the scheme of Providence, that he never shall discover remedies. Moreover, man is capable of subsisting, and actually does subsist, in certain portions of the earth, in which hardly a vegetable is seen, or can be made, to grow. Yet, in these situations man is not exempted from diseases: for diseases appear to be as necessarily a part of his essence or nature as the organs and the functions of his body.

“ BUT although we are not authorized, from an extensive examination of the subject, to conclude, that every country possesses native remedies, that are the best adapted for the cure of its peculiar diseases, still it must be admitted, that the observation

is, in part, well founded. It was remarked by a writer*, who was more distinguished for the vivacity of his wit than for the solidity of his judgement, that the intermittent fever prevailed in Europe, but that the Peruvian bark was found in South-America. This observation was intended as an exception to the general rule which I have mentioned. Perhaps, it was intended to arraign the benevolent order of Providence. But the observation can have no weight with physicians who know, that the intermittent fever is the disease of almost every climate, and that the Peruvian bark is not the only remedy that is capable of subduing this disease.

“ WITHOUT any regard, however, to the rule that, in general, the remedies for diseases exist in the native countries of such diseases, it may safely be conjectured, judging from the discoveries which have already been made, in the term of three hundred years, that there are no countries of the world from which there is reason to expect greater or more valuable accessions to the *Materia Medica*, than the countries of America. The different species of *Cinchona*, or Peruvian bark, the *Quassia*, the *Simarouba*, the *Guaiacum*, the different kinds of *Jallap* and of *Ipecacuanha*, the *Polygala Senega*, the two species of *Spigelia*, not to mention many other valuable medicines, are all natives of America; and most of them have not, hitherto, been found in any other portion of the world.

“ It has often been said, that the *Materia Medica* is already crowded with a great number of inert, use-

* Monsieur De Voltaire.

less, or pernicious medicines. This I think is strictly true; and it is certainly, high time to banish from the shops many of the medicines, or articles, which they contain. This fullness of the *Materia Medica* ought not, however, to make us relax in our inquiries into the properties of the vegetables of our own and of other countries. No candid physician will deny, that he often meets with cases in which the choice of active medicines is a matter of consequence. So various are the constitutions of our patients; so infinitely various are the forms under which diseases present themselves, that it becomes absolutely necessary to know, and to possess, a great number of different medicines, even of those which are endowed with a common assemblage of properties.

“ I AM not ignorant, that there are some persons, who consider the science of medicine as a science of extreme simplicity; who believe, or affect to believe, that in the treatment of diseases, we have arrived at something like the *ultimatum* of perfection. We are already, say these persons, in possession of all the means that are necessary for the alleviation, or for the cure, of our diseases. It is needless, then, to ransack nature any further.

“ IN opposition to such an opinion as this, it will be sufficient to hint at the recent date of the introduction of some of the most important articles of medicine into the *Materia Medica*; or at the recent date of our acquaintance with the new properties and powers of those which have long been known. The properties of Mercury could hardly be said to be

known until the general spread of the venereal disease through Europe, towards the end of the 15th and the beginning of the 16th centuries. Nay not more than half the invaluable powers of this herculean medicine were discovered before the middle of the last century ; and I cannot hesitate to believe, that many of its properties are still unknown. The Peruvian bark, the Ipecacuanha, the Jallap, the Tobacco, the Guaiacum, and many others, were not even named to the physicians of the old-world, until several years after the discovery of America, in 1492. Some of the most valuable properties of Opium, such as its use in the treatment of low nervous fevers, were not detected before the middle of the eighteenth century ; and of the *Digitalis*, one of the most common plants of some of the most cultivated countries of Europe, little except the fact of its being an extremely deleterious plant, was ascertained previously to the excellent publication of Dr. Withering. These facts, certainly, show us, that we have no reason for believing, that the list of important articles of the *Materia Medica* is completed ; or that we are fully acquainted with all the properties of those which have been known for hundreds of years. On the contrary, they render it highly probable, that hitherto, we have discovered but a very small part of those vegetable and other remedies, which Providence, in the fulness of his benevolence, has scattered over the earth.

“ IN conducting our inquiries into the properties of the medicinal vegetables of our country, much useful information may, I am persuaded, be obtained

through the medium of our intercourse with the Indians. Let not this observation induce any of you to suppose, that I am of opinion, with many travellers, and with some writers on the *Materia Medica*, that the savages of North-America are in possession of absolute specifics for all, or for any, of their diseases. I am too much of a skeptic in matters that regard the science of medicine to admit of the existence of any medicines that are strictly entitled to the name of specifics; and my inquiries concerning the diseases and remedies of our Indians have convinced me, that among these people the art of medicine is truly in a shapeless and an embryo state.

“It is, nevertheless, certain that some of the rudest tribes of our continent are acquainted with the *general* medical properties of many of their vegetables. Like the rest of mankind, they are subject to diseases; and like all nations in the savage forms of society, many of their diseases are violent. Nor, notwithstanding what has been repeatedly asserted to the contrary, are the diseases of those North-American tribes with whom we are the best acquainted either simple or few. The diseases of our Indians, even of those tribes who have been the least influenced, or corrupted, by their intercourse with more civilized nations, are numerous, and often present themselves in the mixed or complicated forms which have been supposed to be, in a great measure, confined to nations in the more improved and luxurious stages of society. It is, I believe, a truth, that the medicines of savage and other uncultivated nations are, in general, medicines of an active kind. Thus, if we except that

farrago of articles which are employed by our Indians as supposed remedies against the bites of venomous serpents,* we shall find that the *Materia Medica* of these people contains but few substances as inert as many of those which have a place in our books on this science, and on other parts of medicine. The astringents and tonics, which they employ in the treatment of intermittent fevers, are the barks of some species of *Cornus*, or Dogwood, such as *Cornus florida* and *Cornus sericea*, both of which are found to possess properties very nearly allied to those of the *Cinchona*, or Peruvian bark: their purgatives are different species of *Iris*, or Flag, the root of the *Podophyllum peltatum*, or May-apple; the bark of the *Juglans cinerea*, or Butter-nut, and some others: their emetics are the *Spiræa trifoliata*, or Indian Physic; the *Euphorbia Ipecacuanha*, Sulphat of Iron, or Copperas, and many others: their sudorifics are the active *Polygala Senega*, or Seneca snake-root, the *Aristolochia Serpentaria*, or Virginia snake-root, the *Eupatorium perfoliatum*, or Thorough-wort, the *Lobelia siphilitica*, &c: their anthelmintics are the *Spigelia Marilandica*, or Carolina Pink-root, the *Lobelia Cardinalis*, or Cardinal-Flower, &c.

“ FROM this list, which it would be an easy task to render more extensive and more perfect, it must be obvious, that the Indians of North-America are in possession of a number of active and important remedies. It will not be denied, however, that they do not always apply their remedies with judgment and discern-

* See Transactions of the American Philosophical Society. Vol. iii. No. xi.

ment. But what treasures of medicine may not be expected from a people, who although destitute of the lights of science, have discovered the properties of some of the most inestimable medicines with which we are acquainted? Without mentioning the productions of South-America, let it be recollected, that it is to the rude tribes of the United-States that we are indebted for our knowledge of *Polygala Senega*, *Aristolochia Serpentaria*, and *Spigelia Marilandica*.

“It is observed by De Pauw, that Botany is the only science that is known to savage nations.* This observation is more just than many others that are to be found in the writings of this singular author. But it would have been still more just, if, instead of Botany, the term *Materia Medica* had been employed. Savages, in general, know nothing of the sexual differences of vegetables; their classification, &c. circumstances intimately appertaining to the science of Botany.† But a knowledge of the obvious habit or deportment of their plants, and of the general properties of these plants, is, indeed, a very prominent feature in the description of many savage nations: it is, perhaps, more especially a prominent feature in the description of the savage nations of North-America.

* *Recherches Philosophiques sur les Americains*, &c. Tome 1.

†If, however, we may depend upon the observations of Dr. Forster, the inhabitants of Otaheite, and other islands in the Southern Pacific Ocean, are “acquainted with the sexual system, especially in the coco-palm.” These people have also learned to designate by distinct and often appropriate names, the bracte and various other parts of the plant, in a manner so correct, that it must be acknowledged; that the dawn of Scientific Botany has commenced among them. See *Observations made during a Voyage round the world*, &c. p. 498, 499, 500. London: 1778. 4to.

“ But it is only with their general properties that they are acquainted. For the discovery of these the uncultivated reason of man, even the wild instinct of the animal, are often sufficient. It is the province of science ; it is the duty of those who attach themselves, with a well-guided ardour, to the amiable pursuits of medical and natural science more especially, to investigate, with a laborious and accurate attention, the whole of the properties of the various natural objects by which they are surrounded. The illiterate Indians of Loxa, in Peru, were not ignorant, that the Peruvian bark cured intermittent fevers: but it was reserved for men of science, aided by the ample experience of many years, to discover the numerous other properties of this important, this indispensable, article of the *Materia Medica*.”



COLLECTIONS, &c.

SECTION I. ASTRINGENTS.

GERANIUM maculatum*. This is, certainly, a vegetable entitled to the attention of American physicians. In Kentucky, where it is called "Crow-foot", it has been collected for the Tormentil† of the shops. In some of the north-western parts of the United-States, it is known by the name of *Racine a Becquet*, after a person of this name. The western Indians say it is the most effectual of all their remedies for the cure of the venereal disease. I have not, however, been able to learn, in what form or stage of this disease they employ it. I doubt not it would be found very useful, exhibited internally, in cases of old gonorrhoea. In such cases, the internal astringents are too much neglected.

AN aqueous infusion of the root forms an excellent injection in gonorrhoea. In old gonorrhoea, and in gleet, a more saturated infusion may be employed, either alone, or combined with a portion of the sulphat of zinc, or white vitriol.

* See Collections, &c. Part First. pages 8 & 43.

† Tormentilla erecta of Linnaeus.

BOTH the simple sulphat and the oxy-sulphat of iron strike a deep violet colour with the infusion of the root in water.

HEUCHERA Americana*. This is the Heuchera Cortusa of Michaux†, who has unnecessarily changed many of the long-received names of American plants. This Heuchera is one of the articles in the Materia Medica of our Indians. They apply the powdered root to wounds, and ulcers, and cancers.

OF the *Pyrola umbellata* I have made no mention in the first part of this work. It is a very common North-American plant, and is sometimes called Ground-Holly, but is much better known (at least in New-Jersey and in Pennsylvania) by the name of *Pippsisseva*‡, which is one of its Indian appellations. In the sexual system of Linnæus, it belongs to the same class and order (*Decandria monogynia*) as the *Uva Ursi*. It also belongs to the same natural assemblage of plants as the last mentioned vegetable: viz. the order *Bicornes* of Linnæus, and the order *Ericæ* of Mr. de Jussieu. The two plants are, unquestionably, nearly allied to each other in respect to their botanical affinity, as well as in their medical properties.

THE *Pyrola* is considerably astringent, and the quantity of astringency appears to be nearly the same in the leaves and in the stems. Hitherto, it has not greatly excited the attention of physicians. But I think it is worthy of their notice. A respectable physician, in East-Jersey, informed me, that he had employed this plant,

* See Part First. Page 9.

† *Flora Boreali-Americana*, &c. Tom. i. p. 171.

‡ Perhaps, *Phipsesawa*.

with manifest advantage, in the same cases in which Uva Ursi has been found so useful. This looks very probable: for it would seem, from many facts, that the lithontriptic powers of the Uva Ursi are, in no small degree, owing to the astringent quality of this plant: and, “ perhaps, upon the whole (as an eminent practitioner* “ has observed), we shall find it no better than other vegetable astringents; some of which have long been used “ by the country people, in gravelly complaints, and with “ very great advantage: though hitherto unnoticed by “ the regular practitioners†”.

THE Pyrola, as I am informed by my pupil Dr. John S. Mitchell, has been used, with good effect, in some cases of intermittents. In one case, its diuretic operation was evident. “ The urine discharged was almost “ black. It appeared as if a few drops of a solution of “ the sulphat of iron had been put into an astringent “ infusion‡.” This was a solitary occurrence, and one which I am unable to explain.

FOR more ample information concerning this vegetable, I beg leave to refer the reader to Dr. Mitchell’s *Inaugural Essay on the Arbutus Uva Ursi, and the Pyrola umbellata and maculata* of Linnæus§. Prefixed to this

* Dr. Withering. See *A Systematic Arrangement of British Plants, &c.* Vol. II. p. 391. London: 1801.

† I cannot forbear mentioning in this place (at the risk, perhaps, of exposing myself to the ridicule of the mere theorist), that the *nuclei*, or kernels, of the common American Hazlenut (*Corylus Americana*) have been found very useful in affording relief to several persons labouring under nephritic, and perhaps calculous affections. I mention this fact on the respectable authority of my friend, Dr. Frederick Kuhn, of Lancaster, in Pennsylvania. Do these kernels act solely by virtue of their astringent quality?

‡ Letter to me, dated Sunbury, August 8th, 1803.

§ Philadelphia: 1803.

dissertation, there is a good figure of the *Pyrola umbellata*.

THE *Myrica cerifera*, or Candle-berry Myrtle, deserves to be mentioned in this place. This is a common shrub in many of the maritime parts of the United-States, as in New-Jersey, Delaware, &c. This is, unquestionably, a very powerful astringent, and as such has been employed by the country-practitioners of the United-States. A decoction of the bark of the root is employed, sometimes alone, and sometimes in combination with the bark of the root of Persimmon, or with the bark of the Black-Alder, which I am afterwards to mention. The simple or combined decoction of the *Myrica* has been used, with much advantage, in dropsical affections succeeding to intermittents, particularly in the peninsula of Delaware, where dropsies, in various shapes, are, perhaps, more common than in any other part of North-America, within the same latitudes. The root of the *Myrica* has likewise been found useful in the treatment of hæmorrhages from the uterus, &c. It was remarked by an old physician,* who had much experience in the use of this vegetable, that it often acted as a gentle purgative.

SEVERAL varieties of the *Myrica cerifera* are described by the botanists. That of which I have been speaking is distinguished by the circumstances of its having broader leaves, and larger berries, than the others. It is the variety marked β and named *media*, in the *Flora Boreali-Americana* of Michaux†. I cannot, however, assert, that as an astringent, this is to be preferred to the other varieties.

* Dr. Matthew Wilson.

† Tom. 11. p. 228.

THE *Myrica Gale*, called Sweet-Willow, or Dutch-Myrtle, and also American Bog-Gale, is likewise a native of the United-States. But this, to which useful qualities are ascribed, by Linnæus and other writers, seems less worthy of our notice than the above-mentioned species.

THE *Prinos verticillatus** of Linnæus is a very common shrub in many parts of the United-States. It is especially common in the maritime parts of the union, at least as far south as North-Carolina; and is generally found to grow in the greatest perfection in swamps, or marshy places. It is the *Prinos Gronovii* of Michaux. To the inhabitants of New-Jersey and Pennsylvania, it is well known by the name of Black-Alder. If I do not mistake, however, the same appellation has been bestowed upon another American shrub, the *Ilex? Canadensis* of Michaux. Care must be taken to distinguish our *Prinos* from the Swamp-Alder, or Candle-Alder, which is the *Betula serrulata* of Aiton.

THE bark of the *Prinos verticillatus* is manifestly astringent. It is, likewise, considerably bitter, and along with these properties there is united a degree of pungency. The berries, which are of a fine red colour, greatly partake of the bitter quality, and if infused in wine or brandy, might be employed, with advantage, in many of those cases in which bitters, in a vinous or spirituous menstruum, are exhibited by physicians. But it is especially the bark of the shrub that seems entitled to our attention.

THIS has long been a popular remedy in different parts of the United-States. But as yet, it has been

* Marshall calls this Virginian Winter-Berry.

greatly neglected by the regular physicians, only a few of whom (so far as I can learn) have been in the habit of employing it. This bark possesses the common properties of the vegetable astringent and tonic medicines; and, accordingly, it has been used as a substitute for the Peruvian bark, in intermittents, and in other diseases. It is employed both in substance and in decoction, most commonly, however, in the latter shape. It is supposed to be especially useful in cases of great debility unaccompanied with fever; as a corroborant in anasarcois and other dropsies, and as a tonic in cases of incipient sphacelus, or gangrene. In this last case, it is, unquestionably, a medicine of great efficacy. It is both given internally, and employed externally as a wash. On many occasions, it appears to be more useful than the Peruvian bark. It ought to have a place in the shops, and in the Pharmacopœia of this country, WHEN SUCH A DESIDERATUM SHALL BE SUPPLIED.

IN making decoctions or infusions, for the different purposes which I have mentioned, the berries are often mixed with the bark.

THE *Orobanche Virginiana*, or Virginian Broom-rape, is a very common plant in many parts of North-America. Michaux says that it grows from Canada to Georgia. It is generally, if not always, found under the shade of the American Beach-tree (*Fagus ferruginea*)*. Hence one of its names, in Pennsylvania, viz. "Beach-drops." But it is much more generally known by the name of Cancer-root†.

* Michaux entirely restricts its habitation to the root of the Beach: "In radice Fagi nec aliæ plantæ." *Flora*, &c. Tom. II. p. 26.

† See *Elements of Botany*, &c. Part Third. p. 80.

EVERY part of this plant is considerably astringent. This astringency is evinced not only by the taste of the plant, but also by subjecting it to chemical examination. The infusion or decoction assumes an ink-like colour, on adding to it a solution of the sulphat of iron, or copperas. But along with the astringency, especially in the recent plant, there is combined a peculiar and extremely nauseous bitterness. Judging by the taste, we should not hesitate to say, that the Cancer-root is a vegetable endued with considerable powers. It must be confessed, however, that these powers are much less obvious in the dried than in the recent vegetable.

SOME of the medical powers of this plant have long been known to the people of the United-States. It has been celebrated as a remedy in dysentery. There are, I think, cases of dysentery in which much advantage might be expected from the exhibition of a medicine possessed of the powers of the Cancer-root. But this vegetable has acquired its principal reputation as a remedy in cancerous affections. How far it is entitled to any character in such affections, I am unable to say, having never employed it in a case of genuine cancer. But it is proper to mention, that the Orobanche has been supposed, by many persons, to have formed a part of the celebrated cancer-powder of Dr. Hugh Martin, whose success in the management of many cases of this dreadful disease, has been acknowledged by the regular practitioners of Philadelphia, &c.

As early as 1785, at which time I was a student of medicine, I was informed, by the people inhabiting the western parts of Pennsylvania and Virginia, that this Orobanche formed the principal part, if not the whole, of Martin's powder. It was even said, that Martin, who

had passed some time at Fort-Pitt, was known to have collected the plant for the purpose. I believe it to be a fact sufficiently established, that the basis (or perhaps rather the most active part) of Martin's powder, was the oxyd of arsenic. This has been shown by a chemical examination of the powder*, and by other circumstances nearly as decisive. Thus comatose affections (such as are known to be induced by arsenic) have been induced by the powder of Martin, even when externally applied in cancerous ulcers. A case of this kind came under the notice of a physician† in Philadelphia. The patient seemed to fall a victim to the application of the medicine.

BUT the powder of Martin did not consist entirely of the oxyd of arsenic. This is certain. I believe it to be certain also, that he combined with the arsenic, a vegetable matter; and from what has been said, it would seem not entirely improbable, that this vegetable was the *Orobanche Virginiana*.

It may be said, and it is not impossible, that Martin added the vegetable matter merely to disguise the arsenic, reposing, at the same time, *all* his confidence in the arsenic alone. I think it more probable, however, that the superior efficacy of Martin's powder, and of the powders in the hands of other empirical practitioners, has been, in part, owing to the addition of something to the arsenic. If there be *no* foundation for this suspicion, how has it happened, that in the management of cancers, the empirical practitioners have often succeeded so much better with their medicines than the regular physicians

* See Dr. Rush's paper on the subject, in the Transactions of the American Philosophical Society. Vol. II. No. xxvi.

† Dr. Adam Kuhn, from whom I received the fact.

have done? Both use arsenic. Some of the cancer powders, employed by empirics, in Europe, are known to have been composed, in part, of arsenic and a vegetable matter. The celebrated powder of Plumked was made up of arsenic, the root of a species of *Ranunculus*, or Crow-foot; and sulphur.

WHATEVER may have been the vegetable which Martin used in combination with arsenic, it is certain, that the powder of the *Orobanche*, or Cancer-root, has been of great service (in Philadelphia, &c.) externally applied to obstinate ulcers, some of which had resisted the applications that are commonly made use of in such cases. It would be well to try the effects of this vegetable in those dreadful ulcerations (by some writers deemed cancerous), which are too frequently the consequence of the use of mercury, when it has been given in large quantity. Cases of the kind I allude to, are recorded by Dr. Donald Monro, Mr. Adams, in a valuable work*, and other writers. I have had occasion to see some ulcerations of the same kind in Philadelphia. They often refuse to yield to stimulating or to mild applications.

WITH the view to encourage further inquiry into the nature and properties of the *Orobanche Virginiana*, I may here mention, that one of the European species of this genus, the *Orobanche major*, or Greater Broom-rape, is a very powerful astringent, and is said to have been found useful, externally applied, in cases of ulcers. This I mention on the respectable authority of Sir John Flo-
yer†. The activity of the European plant may even be inferred from the fact mentioned by Shreber, that cattle

* Observations on Morbid Poisons, Phagedæna, and Cancer, &c. p. 65, &c. London: 1795.

† Pharmacobasanos, or The Touchstone of medicines, &c. p. 159. London: 1687.

do not eat it. We must pay, perhaps, no regard to certain other powers which have been ascribed to it. “*Dicunt autem facere, ut taurum vacca appetat**.” I have not been able to learn whether the *Orobanche Virginiana* is eaten by the horned cattle, or other quadrupeds.

SECTION II. TONICS.

I SHALL open this section with a few notices concerning some indigenous Bitter vegetables, which seem well entitled to the attention of physicians. At the same time, I avail myself of an opportunity of observing, that the tonic quality of vegetables does not so much consist in bitterness as some celebrated writers† have imagined. It will not be denied, that many of the bitters (even those which have their bitterness unmixed with astringency) are some of the most useful tonics with which we are acquainted. But, it must be allowed, that certain other bitter vegetables have but a feeble claim to the character of tonics. And it would not be a difficult task to show, that some of the most valuable tonics are (strictly speaking) neither bitter nor astringent. It is not easy, therefore, to say, in what the tonic property of medical agents does especially consist. It will hardly be doubted, however, that every tonic exerts a stimulant effect upon the system, though, on many occasions, it may be difficult or impossible to measure the intensity or degree of the sti-

* *Alberti v Haller Historia Stripium Indigenarum Helvetiæ inchoata.* Tom. i. p. 130.

† Dr. Cullen, particularly. See his *Treatise of the Materia Medica.* Vol. II. p. 55, &c.

mulus applied, merely by an attention to the pulse. THE PULSE IS OFTEN A VERY UNCERTAIN OR FALLACIOUS TEST OF THE OPERATION OF STIMULANT AGENTS.

THE *Zanthorhiza apiifolia** of L'Heritier, or Parsley-leaved Yellow-root, is a native of North and South Carolina, and Georgia. It is a small shrub, which flowers early in the spring. This vegetable has long been known; but it is only within a very few years that it has excited the attention of physicians.

THE bark of the root is intensely bitter; I think more so than the root of Columbo. This bitter property pervades the wood of the root, as well as the bark: but in the former it is, unquestionably, weaker than in the latter. The bark of the stem is also bitter, perhaps but little less so than that of the root. The sensation of bitterness that is left in the mouth, when the bark has been chewed, is very durable and adhesive. It continues, to a considerable degree, even after the mouth has been repeatedly washed with cold water. There does not seem to be combined with the bitterness, any very considerable degree of a foreign acrimony. However, upon holding the bark for some time in the mouth, it evidently communicates to it a sense of pungency, or acrimony, I think there is less of this pungency in the bark of the stem than in that of the root.

THE infusion of the bark of the root, in hot water, had a disagreeable and somewhat virose smell. From this, however, it ought not to be inferred, that the *Zanthorhiza* is a deleterious plant. A similar smell belongs

* *Zanthorhiza simplicissima* of Marshall, and *Zanthorhiza tinctoria* of Woodhouse. The specific name *apiifolia* should be preferred.

to many other bitter vegetables, even to some of those which appear, from the experience of many ages, to be entirely innoxious. I am not ignorant, indeed, that a poisonous quality has been supposed to be necessarily attached to every bitter. I cannot help thinking, that this theory has been the result of a very limited view of the subject of bitters, and of their effects. The evil effects of the Portland powder, and other similar articles, in gouty affections, have, I am persuaded, been greatly exaggerated by Dr. Cullen*, and some other writers : and the real bad effects of these articles must, perhaps, be ascribed to the long-continued repetition of a stimulant powder, by which the energies of the system are wasted, and irregularities occasioned in the circulation of the blood.

THE Zanthorhiza, so far as we are enabled to investigate its properties, appears to be one of the most pure and unmixed bitters. The addition of the sulphat of iron to an infusion of the bark of the root in boiling water, did not produce the least perceptible change in the colour of the infusion, even when the two articles were suffered to stand for a considerable time, after the addition. In this respect, as well as in others, it appears to make a very near approach to the Columbo. But I am inclined to think, that the Zanthorhiza is the least pure of the two†.

To the saliva, the bark, when it is chewed, communicates the most beautiful yellow colour. The infusion in hot water is also very fine. If its colour could be fixed, the Zanthorhiza would be one of the most important of all the yellow *plantæ tinctoriæ* with which we are acquainted.

* A Treatise of the Materia Medica. Vol. II. p. 64, 65, 66.

† See Elements of Botany, &c. Explanation of the Plates. Page 26.

HITHERTO, the *Zanthorhiza* has been but little employed in practice. Some experiments have, however, been made with it*, and these are calculated to show, that it may be advantageously employed, and that it ought to have a place in the shops. Although less pure than Columbo, I believe it is, in certain cases, to be preferred to that celebrated bitter. Professor Woodhouse, who seems to have paid more attention to this vegetable than any other person, has used it, with very good effect, in several of those cases in which the bitter medicines are proper.

FOR a correct representation of the *Zanthorhiza*, see the *Medical Repository*, already referred to, and also, my *Elements of Botany*†.

IN the First Part of these *Collections*‡, I have made mention of the *Hydrastis Canadensis*, commonly called “Yellow-root.” This is a very common vegetable in various parts of the United-States; particularly in the rich soil adjacent to the Ohio and its branches, in the western parts of Pennsylvania and Virginia; and in Kentucky. The root of this plant is a very powerful bitter: perhaps not less so than that of the *Zanthorhiza*. To the taste, however, it is unquestionably more pungent than the *Zanthorhiza*. When held between the lips, it even excites a very considerable sense of pungent heat. The dried root has a strong and virose smell, very similar to that of the *Zanthorhiza*, but stronger. The infusion in hot water, smells very like the infusion of *Zanthorhiza*. The two infusions taste a good deal alike.

* See *Medical Repository*. Vol. v. No. II.

† Plate XII.

‡ Page 9. See, also, *Elements of Botany*, &c. Part Third, p. 70.

ON adding a solution of the sulphat of iron to an infusion of the root of the Hydrastis, I was not able to discover the least indication of astringency. This further shows the affinity of the two plants to each other. I may add, that although they do not both belong to the same artificial subdivision in the sexual system, they are both near relations in a family of Natures making. They belong to De Jussieu's order *Ranunculaceæ*, which may be considered as a pretty natural assortment of vegetables.

THE Hydrastis is a popular remedy in some parts of the United-States. A spirituous infusion of the root is employed, as a tonic bitter, in the western parts of Pennsylvania, &c. and there can be little doubt, that both in this and in other shapes, our medicine may be used with much advantage. An infusion of the root, in cold water, is also employed as a wash, in inflammations of the eyes. In these cases, it is well known, that some of the bitter medicines, such as ox-gall, fish-gall, and others, have long maintained some character; and some of them, I believe, are entitled to the praises which have been bestowed upon them,

THE root of the Hydrastis supplies us with one of the most brilliant yellow colours, with which we are acquainted. When it shall be subjected to proper experiments, I doubt not, it will be found a most valuable dye-plant, and well worthy of a place in the manufacturing houses.

THE *Gentiana lutea*, or common Gentian of the shops, is said to be a native of the United-States*. This, per-

* Kalm.

haps, is doubtful. But it is certain, that several of the indigenous species of this genus are intense and pretty pure bitters, but little, if at all, inferior to the species just mentioned*.

THE *Gentiana Centaurium*†, or Lesser Centory, is found native within the limits of the United-States. This, however, is not the plant which is called Centory, or “Centry,” in Philadelphia, &c., where it is so commonly employed both by physicians, and as a domestic remedy in almost every family.

THE Centory to which I allude is the *Chironia angularis* of Linnæus. This is a beautiful annual plant, and grows abundantly in many parts of the United-States, as in New-York, Pennsylvania, Virginia, &c. Every part of the plant is intensely bitter, in which respect it differs from the *Gentiana Centaurium*, the blossoms of which are nearly insipid‡. In other respects, it is closely allied to the Lesser Centory, the properties of which are well known, and established by the experience of physicians, for many hundred years. In no respect, that I can perceive, is the *Chironia* inferior, as a bitter, to the *Centaurium*. As a much more common plant than this latter, it may, without any injury to our patients, supersede its use in the practice of American physicians, most of whom, if I do not mistake, have supposed, while they were employing the *Chironica angularis*, that they were using the *Centaurium*, of the European writers on the *Materia Medica*. The Chi-

* See Collections, &c. Part First, page 15.

† It is the *Chironia Centaurium* of Curtis, Withering, Smith, and other botanists.

‡ Lewis.

ronia is mentioned by Dr. Schoepf, who speaks of it as aromatic and bitter, and mentions the infusion as being useful in fevers*. Indeed, I believe that no bitter has been more generally prescribed in the United-States, in febrile and other affections, than this common American plant, especially since the memorable year 1793, when it was much employed in certain stages of yellow-fever; and in which I believe it was very often used with much benefit.

THE *Frasera Caroliniensis* of Walter† (*Frasera Walteri* of Michaux‡) is nearly allied, in botanical habit, to the genus *Gentiana*. This plant, which is a native of the states of New-York, Carolina, &c., is furnished with a large tuberous root, of a yellow colour, which promises to be little inferior, as a bitter, to the *Gentian* of the shops, and for which, I suspect, it has sometimes been mistaken.

I CANNOT conclude this part of the subject of the Tonics, without observing, that the countries of the United-States are so rich in bitter vegetables, that there can be no *necessity* for having recourse to the foreign articles of this class; especially when such articles are only to be procured at a high price: a circumstance which not unfrequently becomes a source of the adulteration of medicines, in this and in other countries.

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* *Materia Medica Americana*, &c. p. 27. Schoepf calls the plant, *Wild-Succory*.

† *Flora Caroliniana*, &c. p. 87, 88.

‡ *Flora Boreali-Americana*, &c. Tom. i. p. 96, 97.

IN the First Part of this work, I made some mention of two American species of Cornel, or Dog-wood, the *Cornus florida* and *Cornus sericea**. Since the publication of that part, these two vegetables have engaged the attention of an ingenious graduate in the university of Pennsylvania, Dr. John M. Walker, to whom we are indebted for much interesting information concerning them†. An analysis of the dissertation would not, I presume, be uninteresting to my readers. But I cannot undertake the task in this place. I think it a duty, however, to mention some of the author's experiments and observations.

THE taste of the barks of the two Cornels, and that of the Peruvian bark, is nearly similar, “ though somewhat more bitter and astringent in the Corni than the bark : the former when retained in the mouth some time, only impart to the tongue these two tastes, along with a pleasant warmth ; whereas when the latter is retained the same length of time, along with this bitterness and astringency, it imparts an indescrivable taste, which will be easily recognized by every one who has taken the bark.”

DR. WALKER'S experiments show, “ that the *Cornus florida* and *sericea*, and the Peruvian bark, possess the same ingredients, that is gum, mucilage, and extract, which last contains the tannin and gallic acid, though in different proportions. The Florida possesses most of the gum, mucilage, and extract ; the *Sericea* the next, which appears to be an interme-

* See pages 11, 12, 45.

† An Experimental Inquiry into the similarity in virtue between the *Cornus Florida* and *Sericea*, and the *Cinchona officinalis* of Linnæus, &c. &c. Philadelphia : 1803.

“ diate between the Florida and Peruvian Bark ; while
 “ the latter possesses most of the resin. Their virtues
 “ appear equally similar in their residence. The ex-
 “ tract and resin possess all their active virtues. The
 “ extract appears to possess all their tonic power. The
 “ resin, when perfectly separated from the extract, ap-
 “ pears to be purely stimulant*.”

OUR author has established the stimulant power of the two Cornels, by actual experiments upon the healthy system. By the use of these medicines, the pulse was often rendered fuller and stronger, and always quicker†.

THE bark of the *Cornus sericea* forms a beautiful tincture with proof spirits. This is deserving of a place in the shops, as are, also the powdered barks of both species.

I CAN add but little, from my own experience, concerning the application of these two species of *Cornus* to the cure of diseases. I believe, however, that it may, with entire safety, be asserted, that as yet we have not discovered within the limits of the United-States, any vegetables which have been found so effectually to answer the purpose of the Peruvian bark, in the management of intermittent fevers, as the *Cornus florida* and *Cornus sericea*.

IN an intermittent fever, which prevailed in West-New-Jersey, about twenty-four years ago, the bark of the *Cornus florida* was found more useful than the Pe-

* An Experimental Inquiry, &c. page 29.

† Ibid. page 46.

ruvian bark. It was used in the shape of a decoction*. I must candidly confess, however, that I have heard of more instances of the failure of this Cornel than of the Peruvian bark. But has any vegetable so completely prevented the recurrence of the paroxysms of intermittents as the last mentioned one? In the mineral kingdom, indeed, we have discovered an inestimable substitute for the bark: I mean Arsenic. This, particularly I think, when it is given in substance†, will more certainly cure the intermittent than any vegetable yet known, the Peruvian bark excepted. But I am inclined to think, that relapses are more common after the employment of arsenic than after that of the bark. BESIDES, ARSENIC CANNOT ALWAYS BE USED WITH ENTIRE SAFETY. In illustration of this position, I may here observe, that I myself have seen three cases of very general oedema of the face and limbs (especially the former) evidently induced by arsenic. Two of the sub-

* From the information of my learned friend, the Reverend Dr. Nicholas Collin, of Philadelphia.

† I have, for several years, employed the oxyd of arsenic in substance, in preference to Dr. Fowler's solution. I think it a much more certain medicine than the solution. I commonly give it in combination with opium. One grain of the arsenic is united to four or eight grains of opium, and made into a mass with conserve of roses, or honey, or soap. This is divided into sixteen pills, of which I direct the patient (an adult) to take two or three, at different periods, in the course of the day and night, *especially during the apyrexia*. Such are the powers of this medicine, that two grains of it are often sufficient to cure an intermittent, that has continued for weeks! Sometimes, I use larger doses: but in a majority of the cases that have come under my notice, I have found three sixteenths of a grain of arsenic sufficient for the period of twenty-four hours. As children are, with difficulty, prevailed upon to take the medicine in the shape of a pill, I rub down the arsenic with honey or melasses and water, and sometimes with a portion of gum-arabic. In this form, it is very conveniently given to children, by drops; and the quantity of the mineral, in each dose, may be estimated with considerable accuracy.—In the cure of intermittents, does arsenic operate by virtue of its tonic power?—The Peruvian bark sometimes cures intermittents that have resisted the powers of arsenic.

jects were children, and the third an adult. They all recovered, without experiencing any other inconvenience from the medicine. I have also seen a case of *temporary* paralysis (or perhaps rather extreme debility) of the limbs induced by the medicine, in a patient labouring under an obstinate intermittent. These notices may, possibly, be of some use to the very young and inexperienced practitioner, for whom principally they are thus candidly mentioned.

THE spirituous tincture of the bark of the *Cornus sericea*, already mentioned, has been advantageously used in the latter stage of diarrhoea, unaccompanied with fever.*

I HAVE already made mention of the *Magnolia glauca*.† The bark of this tree is celebrated among the Western Indians, as a remedy in rheumatism, and in fevers. The tree grows, in great profusion, upon the river Kan-haway, whither the Indians resort for the purpose of procuring the bark, which they carry off, in great abundance. Employed in the shape of a decoction, it “ proves gently cathartic and ultimately sudorific.” A cold infusion and a tincture of the bark are much used in intermittents. “ In one case of inflammatory rheumatism it “ seemed to produce considerable effect and relief, as a “ sudorific, after blood-letting had been premised.” It is known by the names of Elk-Bark and Indian Bark‡. From the former name, I presume the bark is eaten by the American Elk, or *Cervus Wapiti*. We know it is eaten by the Beaver : hence one of the English names of this tree, viz. Beaver-tree.

* From the information of Dr. Amos Gregg, jun.

† See Part First, pages 13, 14.

‡ From the information of my friend, Charles Everett, M. D. of Milton, Albemarle-County, Virginia.

FOR further information concerning the medical and other properties of this vegetable, I refer the reader to Dr. Thomas D. Price's *Inaugural Dissertation on the Magnolia Glauca, or Common White Laurel-tree**.

THE bark of the *Prunus Virginiana* (*Cerasus Virginiana* of Michaux), which I have mentioned in the First Part of these *Collections*†, is considerably bitter and astringent. These qualities are accompanied with some aromatic warmth. It has been justly observed, that “there is a great similarity between the flavour of this bark, and the skin enclosing the kernels of peach stones‡.” This bark also possesses an evident narcotic quality, to which it is highly probable, that some of the useful qualities of the medicine, in certain cases, must be ascribed. It is manifestly stimulant. The bark of the root seems to be more powerful than that of the trunk.

My own experience with this vegetable has been inconsiderable. The experience and observations of others, however, lead me to believe, that it is a medicine well worthy of the notice of physicians. In some parts of the United-States, the bark has been much employed in intermittents, in which it is said to have been found as efficacious as the Peruvian bark. This I am not willing to believe. But as it is a durable tonic, there is little reason to doubt, independently on actual observations, that it is deserving of attention in this common disease.

THE bark has also been found useful in certain cases of dyspepsia, in consumption of the lungs, and in lum-

* Philadelphia: 1802.

† See pages 11 and 34.

‡ Dr. Morris.

bar abscess, attended with hectic fever, and colliquative sweats. Of its use in this latter case, we have an instance in the *Medical Repository**. The patient made use of a decoction of the bark. It would be easy to mention many other diseases in which this medicine has been advantageously employed.

I HAVE already observed†, that the leaves of this tree are poisonous to certain animals. Dr. Morris has shown, that the distilled water of the leaves is a powerful poison to different species of animals, such as kittens, pigeons, &c. About a tea-spoonful of the water killed a “pigeon fully fledged,” in thirty-two minutes. This gentleman was obliged to make his experiments upon the young and imperfectly-expanded leaves of the tree. The adult leaves are doubtless more powerful. Experiments would seem to show, that the deleterious principle of the leaves is of a very volatile nature‡.

UNDER this head of tonics, I may, with some propriety, take notice of the *Eupatorium perfoliatum*. I am sensible, however, that this vegetable might be more advantageously treated of under several different heads, such as those of Emetics, Sudorifics, &c., than under one individual head. But as a tonic quality is, unquestionably, attached to this plant, and as I am not, in these *Collections*, particularly studious of method, I shall bring together all I have to offer concerning the *Eupatorium*, under one point of view. Of this very common plant in almost every part of the United States, I have made

* Vol. v. No. III.

† Part First, page II.

‡ See an Inaugural Dissertation on the *Prunus Virginiana*, &c. &c. By Charles Morris, of Virginia. Philadelphia: 1802.

mention in the First Part of these *Collections**. It is the *Eupatorium connatum* of Michaux. Besides the provincial or common English names which have already been mentioned, it is known by the following appellations: viz. Thorough-stem, Cross-wort, Bone-set, and Indian-Sage. The first of these names has been imposed upon it from the peculiar structure of the leaves, which are opposite, and appear as though the stem was thrust through them. It has received the name of Cross-wort, by which it is known in many parts of Virginia, from the position of the leaves, each pair of which (in general) take their origin from opposite sides of the stem, so that they cross each other nearly at right angles. I am more at a loss to refer the word Bone-set to its real origin: but I presume the plant received this name, from the great relief which, on many occasions, it has been known to afford to persons labouring under violent remitting and other fevers, in which the bones are greatly pained. The resemblance of the leaves of this plant to those of the Common Sage (*Salvia officinalis*) was, long ago, remarked by the botanists†. Hence the name Indian-Sage, by which this *Eupatorium* is known in some parts of Pennsylvania. We have seen, that it is one of the remedies of the Indians‡.

I HAVE already hinted at the obvious properties of the *Eupatorium*, and have observed, that it has been used in intermittents, and other fevers§. I am now to remark, in consequence of subsequent inquiries, that the

* See pages 27, 52, 53.

† Particularly by Plukenet, who thus defines the plant: "*Eupatorium Virginianum, Salviæ foliis longissimis acuminatis, perfoliatum.* Alm. Bot. 140. t. 86. f. 6.

‡ Part First, p. 27, 52, 53.

§ Part First, p. 27, 53.

plant has been exhibited, with uncommon advantage, in these affections. In simple intermittents, admitting of distinct intermissions, a decoction of the whole plant, or the leaves in powder, have, on many occasions, proved effectual in preventing the recurrence of paroxysms. I now speak of the medicine, as exhibited during the time of intermission. But the vegetable, especially in the form of a decoction, has often been given during the time of the hot stage, and I am in possession of a large portion of testimony in favour of its efficacy when thus employed. Not only in intermittents, but likewise in remittents, and in the malignant yellow-fever, as it has prevailed in Philadelphia, &c., has our plant been used, with much advantage. When exhibited in the form of a *warm* decoction, it has seemed to prove peculiarly beneficial, especially by exciting a copious perspiration. The effect of the medicine, in inducing this evacuation, constitutes one of its most valuable properties, and has procured to it an appellation (that of the “vegetable antimony”) to which, I believe, it is as well entitled as many other vegetables, which might be mentioned. But I greatly doubt if the sudorific effect of this plant, when unassisted by heat, can be compared to that of the *Polygala Senega*, and several other American plants. It often proves emetic: but this operation, which on many occasions, is not the least useful of its properties, may be prevented by a proper attention to the medicine. In some parts of the United-States, it is exhibited in intermittents, chiefly with a view to its emetic effect.

THE *Eupatorium* has been used in other cases. It is said to have been found very useful in a peculiar and distressing affection of the herpetic kind, which was formerly very common in Virginia, and there known by the name of the “James-river Ringworm;” because it

as especially prevalent among the inhabitants residing upon the upper streams of James-River. This disease was particularly disposed to affect young men. It attacked the thighs, the scrotum, and especially the parts immediately adjacent to the anus. It extended its ravages into the rectum, and perhaps much further. It was, at all times, a disgusting and troublesome disease, though it rarely proved mortal.

MR. JEFFERSON* informed me, in 1802, that within the period of his remembrance, this herpes was extremely common in Virginia, and that it had gradually disappeared, or become less common, from about the time† that the Warm and Hot Springs, in the county of Bath, in Virginia, had been better known, and more frequented. He ascribed the disappearance of the affection to the use of these waters; the temperature of the former of which is about 98°: that of the latter 106°, of Fahrenheit's thermometer.

IN this affection, the *Eupatorium perfoliatum* has often been found very beneficial, as I have been informed by a respectable physician‡ in Virginia. The patient drank a decoction of the plant, and continued the use of it for a considerable time. It sometimes puked: it, no doubt, purged; and, in all probability, it operated as a sudorific. But by what quality it more especially operated, in curing the disease, I am unable to say. The fact may, I believe, be depended upon.

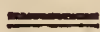
* The President of the United-States.

† These waters were certainly known at least as early as 1759 or 1760. But I believe they did not begin to be frequented, by any considerable number of persons, until some years after. The James-river Ringworm was very prevalent about the year 1766.

‡ Dr. Thomas Knox, of Culpeper.

It may, perhaps, serve to increase our confidence in the powers ascribed to the *Eupatorium perfoliatum* as a remedy for herpes, to observe, that the *Aya-Pana*, which of late has excited so much attention, is a species of this vast family of plants, and that it also has been celebrated as a remedy in certain affections, somewhat allied to herpes*.

I close this article by observing, that every part of the *Eupatorium perfoliatum* may be advantageously employed in practice. I believe, from my own observations, that the flowers possess the greatest portion of the activity of the plant; and they ought to be kept in the shops. As a tonic bitter, I deem them superior to the flowers of Camomile, (*Anthemis nobilis*), for which they might be substituted, on many occasions.



SECTION III. STIMULANTS, OR INCITANTS.

§ I. GENERAL STIMULANTS.

KALMIA latifolia†. The powdered leaves of this vegetable have been used, with much success, in some cases of intermittents‡. A saturated tincture, prepared from the leaves with a proof spirit, is an active medicine,

* See Mr. Tilloch's valuable *Philosophical Magazine*, &c. vol. xiii. p. 376, &c. &c.

† See Part First, p. 18, 48.

‡ Dr. Amos Gregg, jun.

and perhaps worthy of a place in the shops*. For some interesting information concerning the powers of this species of *Kalmia*, and also those of *Kalmia angustifolia*, or Narrow-leaved *Kalmia*, commonly called Lamb-kill, &c., I beg leave to refer the reader to Dr. George G. Thomas's *Inaugural Dissertation* concerning these plants, published at Philadelphia, in 1802.

LAURUS Sassafra. In the First Part of this work, I have made mention of the oil of this vegetable, and have hinted at its affinity to camphor†. The resemblance between the two articles is further evinced by this circumstance, that the oil of *Sassafras*, when externally applied to the body in rheumatic and gouty affections, is remarkable for its power of shifting the pain from its original seat ; *but not always to the advantage of the patient*. Like camphor, therefore, it ought ever to be used, in such affections, with great caution. I believe, however, that it is a medicine well adapted to many cases of rheumatism, in its chronic stage ; though even here it may prove injurious.

THE *Phytolacca decandra*, well known by the names of Poke, Garget, American Nightshade, &c., is one of the most common North-American plants. It is, certainly, a plant of great activity, though the young shoots, when boiled, may be eaten with impunity, and are justly deemed a great delicacy. By many, they are preferred to the finest asparagus.

SOME of the medicinal powers of this plant have long been known‡. The ripe berries, infused in brandy,

* A few drops of this tincture, poured upon the body of a large and vigorous rattle-snake, in my possession, killed the reptile in a very short time. † It violently affected the animal, *almost instantaneously*.

† Pages 19, 20.

‡ See the writings of Kalm, Vogel, Haller, Allioni, Schoepf, and others.

or wine, especially the former, are a popular remedy for rheumatism, in many parts of the United-States. This tincture of Poke (*Tinctura Phytolacæ*) is certainly a valuable medicine in cases of chronic rheumatism, and other similar affections. Like the volatile tincture of gum Guaiacum, it has sometimes done injury ; as might indeed be expected from an active medicine, in the hands of the injudicious or ignorant. It may, I believe, be safely exhibited in most of the cases of rheumatism, in which the Guaiacum has been used with safety and advantage. In the rheumatic affections, which frequently succeed to the venereal disease, it seems to be a more valuable medicine than the Guaiacum, and may be advantageously employed, especially along with calomel, or other preparations of mercury. I have employed the ripe juice of the berries, inspissated to the state of an extract, in some cases of scrophula. The juice, in the same state, has, I am informed, been advantageously employed in cases of cancerous ulcers. These ulcers were dressed with the extract, spread upon linen, or upon the leaf of the plant. But the juice of the leaves, applied in the same manner, is said to have been found more efficacious. I am inclined to repose some credit in the testimonies which I have collected concerning the utility of the extract of Poke, in the cases just mentioned.

THE reader may consult, with advantage, *An Inaugural Botanico-Medical Dissertation on the Phytolacca Decandra of Linnæus*. By Benjamin Shultz*. As a repository of facts concerning the Phytolacca, this dissertation is valuable, and worthy of attention. But the subject is still, in a great measure, a new one.

* Philadelphia : 1795.

ARUM triphyllum*. The recent root of this plant boiled in milk, so as to communicate to the milk a strong impregnation of the peculiar acrimony of the plant, has been advantageously employed in cases of consumption of the lungs. I have heard of one case (that of a negro man in Virginia) who was completely cured of a pulmonary consumption by continuing to take, for a considerable time, milk in which the root of the Arum had been boiled. It would certainly be worth trying this simple prescription in some cases of a disease which so generally baffles the powers of all our medicines, and the skill of the best physicians. I am not ignorant, that within the period of a very few years, the disease of consumption has been supposed to be deprived of some of its terrors : but I must add, with real regret, that notwithstanding the high encomiums which have been bestowed upon the Digitalis as a remedy for this disease, by some distinguished medical philosophers, and practitioners†, I have employed this vegetable in a considerable number of cases of consumption, and, upon the whole, with very inconsiderable *permanent* advantage. In one case, indeed, it *seemed* to perform a cure of what I deemed genuine phthisis : in several other cases, it evidently and remarkably affected the pulse, and moderated the urgency of the symptoms ; but the patients ultimately fell victims to the disease. Some of the patients to whom I exhibited the Digitalis were so far advanced in the disease, that little benefit could have been expected from medicine of any kind : but others of them again were in the earlier stages of the disease, and consequently in a situation that seemed to admit of permanent relief, from this or from other medicines. Yet, with the exception of the case already hinted at, I have not been able to effect a

* Part First, p. 21, 49, 50.

† Mr. Saunders, Dr. Thomas Beddoes, Dr. N. Drake, &c. &c.

single cure by means of *Digitalis*. I am even inclined to think, that I have, in several instances*, more considerably arrested the progress of phthisis pulmonalis by means of emetics (particularly the sulphat of zinc, exhibited in the manner recommended by Dr. Moseley†) than by *Digitalis*. Candour compels me to add, that my own experience with the *Digitalis* in consumption has been less than that of several other practitioners in Philadelphia, some of whom entertain a more favourable opinion of the medicine, as a remedy for consumption, than I do.

DR. STORCK, of Vienna, has called the attention of physicians to a species of *Clematis*, or Virgin's-Bower, the *Clematis recta*‡. This is a very acrid and active plant, which Storck recommended in cancerous, venereal and other malignant ulcers, and also in obstinate pains of the head, and bones, and in other diseases. An infusion of the flowers or leaves, and an extract of the plant were used internally. The powder was sprinkled upon the ulcers, where it was found to act as an excellent escharotic and detergent.

I do not know that the *Clematis recta* is a native of any part of America. I have been led to mention the plant in this place, because the United-States afford us some species of the same genus, which, from a few experiments that I have made with them, promise to be useful in medicine. The species which I have more particularly attended to, are *Clematis crispa*, and *Clematis Viorna*. The leaves of these species are extremely

* Especially in the Pennsylvania Hospital, in the summer of 1803.

† A Treatise upon Tropical Diseases, &c. &c. p. 541, &c. London: 1792..

‡ Upright Virgin's-Bower. Storck calls the plant *Flammula Jovis*. It is a native of Austria, Hungary, Switzerland, and France.

acid, and may be found useful in chronic rheumatism, palsy, old ulcers; and, in fine, in all the diseases in which Storck found the *Clematis recta* useful*. As they are very active plants, it is necessary to use them in small doses. I have received some obscure information concerning the employment of one of the species (I think *C. crispa*), in Virginia, as a remedy in some particular affections.

DR. SCHOEPPF has made no mention of these plants, but has proposed the employment of *Clematis Virginiana*, as a substitute for *Clematis recta*†. The *C. Virginiana* is a much more feeble plant than either of the three other species which have been mentioned.



§ II. TOPICAL STIMULANTS.

THE *Pyrola umbellata*, already mentioned, may be noticed under this head. The bruised leaves of this plant, when externally applied, sometimes induce redness, vesication and desquamation of the skin. But this is by no means a constant operation of the vegetable; and, therefore, it does not seem particularly worthy of our attention, in this point of view.

Rhus radicans‡. The following observations, relative to the deleterious property of this common plant,

* See Elements of Botany, &c. Part Third. p. 70.

† Materia Medica Americana, &c. Praefatio. p. xiii.

‡ See Part First, p. 23, 50, 51, 52.

will not, I hope, be unacceptable to those who are interested in a knowledge of its natural history. The person who is the subject of the observations, has, for many years, been severely affected by the plant; and although many other persons are similarly affected, it is not often, I believe, that the progress of the poison is marked with minute attention in those who are injured by it.

ON the eighth day of July, 1795, I applied two or three drops of the milky juice whilst it issued from the common foot-stalk of the leaves of the *Rhus radicans*, to the risband of my shirt. These leaves, immediately before, had been torn from the stalk of the plant, by a friend of mine*. My object, in applying the juice, was to determine, in what length of time it would assume the black hue. In a few minutes, I found that the linen was stained black, and in a short time after this, I observed that the juice had penetrated through the risband, and that it had communicated a dark brown or blackish colour to that portion of the epidermis which was immediately under it. The day was unusually warm, and I went into the water to bathe. In the evening, I felt a considerable itching of my wrist, and the following morning observed, that there were upon it a number of extremely minute vesicles, which contained a fluid more or less limpid, or transparent. The itching increased hourly: the wrist and the middle of the fore-arm began to swell, and the vesicles extended themselves rapidly, chiefly upwards, towards the elbow, and partly downwards, along the lower part of the wrist, and upon the fingers.

* I was not myself within the sphere of the action of the plant, which I was careful to avoid, well knowing, from long experience, its injurious effects upon me.

MEANWHILE, vesicles accompanied with, and preceded by, itching more or less troublesome, made their appearance, upon various other parts of the body. The face was universally sprinkled with them. But these were extremely small, the fluid which they contained, was always very limpid, and without any application, except that of cold water every morning, they entirely disappeared in two or three days.

ABOUT the seventh or eighth day, the itching, the inflammation, and the spread of the vesicles appeared to be nearly at their height. At this period, and for some days afterwards, the greater part of the fore-arm, and about one third of the arm were swelled to nearly twice the natural thickness ; the itching was intollerable, and the vesicles, in general, were no longer filled with a limpid fluid, but contained a thick matter, or pus, very similar to that of small-pox, and strongly adhering to the linen.

ON the ninth day, I perceived a swelling in the axillary gland of the right arm, which was that to which the lacteous juice was applied, and which was chiefly affected. The swelling rapidly encreased, until it became of the size of a hen's egg, and on the second day from its appearance, it had almost entirely evanished.

FROM the period that the swelling was at its height, to its entire disappearance, the itching was almost universal, and much more insupportable than it was before. I attributed this itching to the influence of the poison, which, I suppose, was conveyed into the system, from the time that the axillary gland began to swell and inflame. Nevertheless, I could not discover that there was,

in consequence of this supposed absorption of the poison, any increase of the number of vesicles upon the surface of the body.

IN fifteen days from the time that the poison was first applied to my arm, all the disagreeable symptoms had ceased ; the vesicles had almost entirely disappeared ; a desquamation of the effected parts had taken place, and a new epidermis had been formed.

FROM the foregoing statement, it must appear evident, that to some constitutions the milk-like juice of the *Rhus radicans* is capable of producing very disagreeable effects. It must not, however, be imagined that these effects are equally disagreeable to all constitutions ; and it is certain that there are *many* persons who are not at all affected by this plant.

It has been asserted, that persons of the most irritable habits of body are the most liable to be effected by the *Rhus radicans*, and by some other species of the same genus. I do not intend to oppose myself as an exception to this position ; but from a recollection of the constitutions of several persons to whom this poison has been applied, I have very little hesitation in asserting, that the susceptibility of receiving its influence is by no means proportional to the degree of irritability, whether muscular or mental, of the habit. It may, I believe, be asserted with much more truth, that the susceptibility of receiving the influence of the poison of the *Rhus radicans* is somewhat proportional to the delicacy and thinness of the epidermis and skin. Hence, no doubt, it is that females are more liable to be poisoned by this plant than males ; that the face is seldom so much affected by it as the arms, the genitals, and most other parts of the

body that are protected from the constant influence of the air; and that young persons are more frequently poisoned than those who have arrived at the age of manhood, or who have passed to the term of older age.

I HAVE said, that there are many persons who are not, in the least, affected by the poison of the *Rhus radicans*, externally applied. This is an undoubted fact. Some of these persons after expressing the juice of the plant, will rub it upon their arms, and other parts of their bodies, without experiencing the smallest injurious effect. I am acquainted with two gentlemen, who find no ill effects from chewing, for a considerable time, the recent leaves of this plant. It deserves to be mentioned, that one of the gentlemen, I allude to, is liable to be considerably injured by the effluvia of the *Rhus radicans*, when applied to the external surface of his body.

It may not be improper to observe, in this place, that several other native plants besides the species of *Rhus*, and the *Pyrola umbellata*, induce, in certain persons, a vesicular state of the skin. The flowers of the *Kalmia latifolia*, or Broad-leaved Laurel, have been known to do this in some persons. I knew an elderly lady who was affected, in the same way, by the *Nerium Oleander*, or Common-Oleander, or Rosebay. But this last is not an American vegetable.

A DECOCTION of the bark of the *Rhus radicans* has been used, with seeming advantage, in some cases of consumption of the lungs, in different parts of Pennsylvania. A gentleman of my acquaintance (who has since fallen a victim to the disease) informed me, that he had certainly found much benefit from this decoction in a pulmonary affection, complicated with *fistula in ano*.

A decoction of the root of the plant is said to have been advantageously employed in cases of asthma.

A LATE writer, M. du Fresnoi, strongly recommends the *Rhus radicans*, in the treatment of herpetic affections, and in paralysis. In the first of these cases, he employed the infusion and the distilled water of the leaves of the plant. He relates seven cases, which seem to establish, unequivocally, the efficacy of these preparations in the affections which I have mentioned. He says he cured five cases of paralysis by the use of the plant*. Dr. Alderson informs us, that he has used the *Rhus Toxicodendron*, with much benefit, in the same disease†.

THE bark of the *Rhus glabrum*, or Smooth Pennsylvania Sumach‡, boiled in milk, has been recommended as a remedy for chronic ulcers; and, I am informed, has been found very useful. The ulcers are often washed with the decoction.

SECTION IV. SIALAGOGA.

I HAVE nothing additional to say under the head of particular ERRHINES, and therefore proceed to the section of SIALAGOGA, or SALIVATING medicines. Between these and the Errhines, there is a very great affinity; as

* Des proprietes de la plante, appelee, *Rhus radicans*; de son utilite, &c. A Leipsic: 1788. I have not seen the original work.

† An Essay on the *Rhus Toxicodendron*, or Pubescent Poison-Oak, or Sumach, &c. By John Alderson, M. D. Hull: 1796.

‡ Part First, p. 51.

is evinced by this circumstance, that several articles of the materia medica, both minerals and vegetables, very frequently act by increasing the secretion by the nose, and also that by the salivary glands. This is remarkably the case with respect to the sulphat of mercury, or turpith-mineral; and, in one instance, I think I have seen a salivation decidedly induced by the use of the turpith mineral, in combination with tobacco, that had been used, for some weeks, as an errhine. This will the more readily be admitted as a fact, when we read, that a very extensive salivation of long continuance, has been apparently induced by an irritation applied to the parotid gland, through the medium of the *meatus auditorius*. The irritating substance was a portion of fetid wool*. It would be an easy task to cumulate facts to prove, that “the
“ number of salivating medicines is much greater than
“ has been commonly imagined†.”

POLYGALA Senega, or Seneca Snake-root‡. My ingenious pupil, Dr. Thomas Walmsley has lately communicated to me an additional instance of the salivating power of this active vegetable. The patient (a lady: aged about years) had taken, for some time, a decoction of the Seneca, and was thrown into a profuse ptyalism, which continued for a considerable time.

It is a well-ascertained fact, that the disease of tetanus has often been induced by different poisonous vegetables: by *Datura Stramonium*, *Hyoscyamus albus*, or White-Henbane, not to mention several others. The

* See Medical Transactions, published by the College of physicians in London, vol. II. p. 34, &c.

† See Part First, p. 24.

‡ See Part First, p. 25.

same disease is likewise sometimes induced by the *healthy* or natural poisons of certain animals. I have collected two well-authenticated instances of the production of this disease, by the bites of venemous serpents, in the United-States. One of the patients died. The tetanus did not come on until six or seven days after she was bitten. The other recovered from the disease, by the use of large doses of the Seneca, boiled in milk*. I know not whether this instance of success should encourage us to hope, that the Seneca might be given, with advantage, in those cases of tetanus which are the consequence of wounds, in different parts of the body. I fear that our vegetable, though by no means a feeble one, will be found unequal to the cure of this terrible disease.

THE *Zanthoxylum Clava Herculis* and *Zanthoxylum fraxinifolium* are both mentioned in the First Part of these *Collections*†. They are both vegetables endued with very active powers. The bark promises to be a very useful medicine in cases of paralytic affections of the tongue, or of the muscles concerned in deglutition: and in such cases, when held in the mouth, they have been employed with advantage‡. They are more active than Mezereon (*Daphne Mezereum*), which both Dr. Withering§ and myself have employed, with a good effect, in the same cases. It might, perhaps, be worth trying the *Zanthoxyla*, as masticatories, in some cases of stammering.

IN some parts of Virginia, the berries of *Zanthoxylum fraxinifolium* are much esteemed as a remedy in

* See Elements of Botany, &c. Part Third, p. 105.

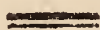
† See p. 25, 52.

‡ By Dr. Tucker Harris, of Charleston, South-Carolina.

§ A Systematic Arrangement, &c. vol. II. p. 370.

violent cholicky affections. A spirituous infusion of the berries is employed. They are known by the name of “ Suter’s-berries.”

For some interesting notices concerning the use of the bark of *Zanthoxylum Clava Herculis*, in rheumatic affections, in ulcers, &c. &c. &c., I refer the reader to different communications, in the *Memoirs of the Medical Society of London**, and other periodical publications.



SECTION V. EMETICS.

SPIRÆA trifoliata†. This is sometimes very injudiciously employed by the country-people, insomuch that they are obliged to apply for medical aid to remove the delirium induced by the large doses of the root which they employ. “ It is said, that there grows in the state “ of Kentucky, another species, which is still more “ valuable, as an emetic, than the *S. trifoliata*‡.”

THE emetic power of the *Sanguinaria Canadensis*, of which I have taken notice in the former part of this work§, has been fully established by the experiments of Dr. Downey, in his ingenious essay upon this plant. The “ most prominent effect” of the medicine is to induce vomiting, even when it is exhibited in moderate doses. “ When taken in the dose of fifteen or twenty “ grains,” it exerts powerful emetic qualities. “ But “ in consequence of the irritation, which is produced in

* Vol. V.

† Part First, p. 26.

‡ Elements of Botany, &c. Part III. p. 89.

§ Page 27.

“ the fauces, it is probable, that in the form of a powder, it will never come into general use. This inconvenience may, however, be obviated, by giving it in form of a decoction or extract.” When managed with care, it is deemed “ but little inferior to the ipecacuanha, either in the certainty or speediness of its operation*.” The powder of the root may be given as an emetic for an adult, in the dose of fifteen or twenty grains, made into pills, otherwise a considerable irritation will be produced in the fauces in taking it†.”

HITHERTO, the *Sanguinaria* has been but little employed by the regular practitioners. It promises, however, to be an useful medicine, particularly on the foundation of its emetic and expectorant effects, in cases of cynanche maligna, or ulcerous sore-throat, in cynanche trachealis, or hives, and other similar affections. Its properties seem to be considerably allied to those of the Seneca Snake-root, which has been so beneficially employed in the same cases‡. I have received an account of its having been employed, in the shape of a decoction, with very evident good effect, in the case of that particular form of cynanche trachealis, which Dr. Darwin has named *Peripneumonia trachealis*§. The medicine proved emetic, and the patient recovered.

* An Investigation of the properties of the *Sanguinaria Canadensis*, or Puccoon. By William Downey, of Maryland. Philadelphia: 1803.

† An Investigation, &c. pages 23, 25.

‡ See Part First, p. 33, 34, 54, 55.

§ Zoonomia, or the Laws of Organic Life. Vol. I. The disease of hives appears under several different shapes, in all of which the trachea seems to be essentially affected. In the course of my practice, I have met with some cases, which answer precisely to Darwin's description, and for which I think the term *peripneumonia trachealis* is a very appropriate one. If I do not mistake, this form of the disease, in general, more readily admits of early and complete relief than any of the other shapes in which it appears.

I HAVE already observed, that the seeds of the *Sanguinaria* “ appear to possess nearly the same quality as the “ seeds of *Datura Stramonium**.” That is, they induce fever, delirium, dilatation of the pupil of the eye, &c. Dr. Downey concludes, from a few experiments, which he made with the “ unripe seeds,” that they possess a very considerable influence over the pulse, and “ a stupifying or narcotic quality†.” A deleterious property evidently resides in the leaves of the plant‡, as well as in the seeds.

SECTION VI. CATHARTICS.

UNDER this head, in the former part of the work§, I have mentioned the *Asclepias decumbens*, commonly called *Pleurisy-root*, *Flux-root*, &c. The root of this plant does, unquestionably, possess a purgative quality. But this does not seem to be the most valuable part of its properties. It is said to possess a remarkable power of affecting the skin, inducing general and plentiful perspiration, without greatly increasing the heat of the body. Accordingly, I find it is much employed by the practitioners of medicine, in some parts of the United-States, particularly, I believe, in Virginia, as a remedy in certain forms of fever, in pleurisy, and other affections. The root is used both in powder and in decoction. Sometimes, it is used in combination with antimonials.

* Part First, p. 27.

† An Investigation, &c. p. 24.

‡ Ibid. p. 24.

§ Page 29. See, also, page 53.

The decoction often induces perspiration, when other medicines have failed to produce this effect. A physician*, who has been much in the habit of employing this *Asclepias*, informs me, that ‘ in the low states of typhus fever, he has more frequently observed a perspiration to succeed to the use of the *Asclepias* than to any of the sudorifics that are generally used.’

ABOUT thirty years ago, this vegetable was strongly recommended, as a specific for pleurisy, by a Mr. Thomson Mason, of Virginia. After the use of an antimonial emetic, and the loss of some blood, he gives his patients “ as much of the *Pleurisy-root*, pounded very fine, and then searched through a fine search, as will lie upon a tolerable broad case knife, in a cup of warm water, and repeats the dose every two hours, until the patient is perfectly recovered, which happens frequently after three days, and never fails freeing him from pain after six.” Mr. Thomson assures us, that by these simple means, he “ has cured hundreds, and never failed in a single instance.”

It does not appear, that Mr. Thomson was a regular physician ; but I have been led to mention his practice the more particularly, because his publication seems to have first called the attention of the public to the virtues of the *Pleurisy-root*, and I know that some very respectable physicians, in Virginia†, have reposed not a little confidence in the powers which our author has ascribed

* Dr. Charles Everett. Letter to me, dated Milton, October 23d, 1803.

† Among others, my friend, the late Dr. James Greenway, of Dinwiddie-county, in Virginia. From this gentleman, I received a copy of Thomson’s paper, which I think first made its appearance in an Almanac, in 1773.

to the medicine, as a remedy in the cases in which he employed it.

FROM Mr. Thomson's publication, it also appears, that the Pleurisy-root may be given in pretty large doses, perhaps about half a dram, several times in the course of the day. Indeed, I find that the Virginia physicians are not very nice in the doses of this medicine, when they prescribe it.

It seems that Mr. Thomson entirely confined himself to the use of the *Asclepias decumbens*, or the species with beautiful orange-coloured blossoms. He observes, however, that there are two other species of the Pleurisy-root, which are known by the name of "Butterfly-weed." It is probable, therefore, that these two kinds (one of which I take for *Asclepias Syriaca*, well known by the names of Wild-Cotton, and Cotton-plant) have sometimes been used for the *Asclepias decumbens*; and it is not unlikely, that a common assemblage of properties belongs to a number of the species of this fine family of plants. *Asclepias Vincetoxicum*, which is a native of Europe, has been recommended by some writers on the *Materia Medica*, as a remedy for dysentery, and other diseases.

I have already mentioned* the extract of the *Juglans cinerea*†, or Butternut-Walnut. This appears to me to be one of our most valuable native cathartics. It is well adapted to the treatment of dysentery, in which, however, it seems to operate merely as a laxative. A decoction of

* See Part First, p. 31.

† *Juglans oblonga alba* of Marshall.

the inner bark (*liber*) of the tree has been very advantageously used as a cathartic, in that malignant fever of our horses, called the yellow-water, which I formerly noticed*.

THE green or unripe fruit of this vegetable is considerably acrid, and when applied externally to the skin, induces some irritation there. Advantage has been taken of this property by the country-people in some parts of the United-States. They apply the cut end of the fruit to those milk-white spots which often appear upon different parts of the body, and seem to arise from a removal of the *rete mucosum*, or perhaps rather its colouring matter, from the skin. A surgeon, whom I met with in the remote parts of the state of New-York, in the year 1797, informed me, that he had known the Butternut employed with the effect of entirely removing the white *maculæ*, or spots in some persons. I should have confidently ascribed the removal of these spots to the stimulant operation of the juice of the nut, if I had not been assured, that similar affections are sometimes removed by the simple application of cream and other articles, which can hardly be supposed to operate by virtue of a stimulant power. I am, however, the more inclined to ascribe the removal of the spots to the stimulant action of the nut, because in a case of this kind, that came under my own notice, I found much advantage from the application of a blister of cantharides to the affected parts. The spots were not only prevented from increasing, but were very sensibly diminished in size, by the action of the cantharides. I have the satisfaction to believe, that by this simple treatment, I prevented the colouring matter of the mucous membrane from being entirely removed from one side, at least, of the face.

* See Part First, p. 12.

I SHALL close this article by observing, that the spots of which I have been speaking, are mentioned by different writers, but by none, I believe, more particularly or correctly, than by my learned friend Professor Blumenbach, of Gottingen. After speaking of the white spots which often make their appearance upon the bodies of negroes, and other dark-coloured people (see his section *cutis fusca maculis candidis variegata*), he has the following words ; “ Niveae vero istae et aequabiles mollesque
 “ maculae quae non nisi actionem alienatam vasculorum
 “ minimorum corii sequuntur, neutiquam inter Aethi-
 “ opes tantum verum etiam passim inter nostrates
 “ occurrunt ; mihiq̃ue ipsi bina istiusmodi exempla in
 “ Germanicis hominibus observandi occasio fuit, alterum
 “ viri juvenis, alterum senis sexaginta et quod excurrit
 “ annorum. Utrique cutis subfusca hinc illinc maculis
 “ diversae magnitudinis candidissimis distincta : quae ve-
 “ ro neutri connatae, sed isti infantili aetate, huic contra
 “ virili sensim et sua sponte subortae fuerant*.”

SECTION VII. DIURETICS.

I HAVE little to say under this head. I believe, however, that it is a fact, that several of our indigenous vegetables, of which no notice has been taken in the preceding part of the *Collections*, are very powerful Diuretics : but my knowledge of these plants is, as yet, very imperfect.

* De Generis Humani varietate nativa, &c. p. 154, 155. Gottingae: 1795.

THE *Erigeron Philadelphicum*, or Philadelphia Flea-Bane, is one of the most common plants in many parts of the United-States. A decoction or infusion of the plant has been used in Philadelphia, by several persons, for gouty and gravelly complaints, and some of them have informed me, that they have been much benefited by the use of the plant*. It operates powerfully as a diuretic, and also as a sudorific. This *Erigeron* is known in Pennsylvania by the name of Skevish, which I suspect is a corruption of the word Scabious. But it must be confessed, that the genera *Scabiosa* (Scabious) and *Erigeron* are sufficiently remote from each other.

I HAVE never employed the *Erigeron Philadelphicum*, in practice: but I am led to believe, that there is *some* foundation for the assertions which I have noticed, because I find that the same plant is mentioned by Father Loureiro, as one of the remedies that are employed by the people of Cochinchina; and he speaks of it as an active emmenagogue†.

IN Virginia, there is a plant called “Piss-wort,” which is deemed a very powerful diuretic. I am unacquainted with the plant, which, however, has been mentioned to me by a respectable physician, who informs me, that he once saw a strong decoction of it given to a horse, labouring under strangury, with the effect of suddenly exciting a very copious flow of urine. Perhaps, it will be found that this plant is a species of *Menispermum*, or Moon-seed, of which genus there are several species indigenous within the limits of the United-States.

* See Elements of Botany, &c. Part Third. p. 123.

† Flora Cochinchinensis, &c. Tom. II. p. 500. Ulyssiponæ: 1790.

SECTION VIII. ANTILITHICS.

By this term of ANTILITHICS, I mean those medicines which give relief in the disease of *lithiasis*, or calculus, and also in nephritis when this depends upon the same causes that induce calculus, such as a gouty diathesis, not to mention others. I prefer this term to the old one of LITHONTRIPTICS, which has so generally been employed to denote a set of medicines which produce the effects I have mentioned. Lithontriptics, in the rigid sense of this term, are, I think, unknown to us; though I do not deny, that the long-continued use of lime-water and other similar medicines, may on some occasions, have acted partially by dissolving, or otherwise altering, the surface of urinary and other calculi. Meanwhile, we are certain, that in many instances where Uva Ursi and other medicines have greatly relieved the distressing symptoms induced by a calculus, the latter has remained undissolved, and its form, perhaps, not in the least, altered.

THE real mode of operation of the Antilithics is unknown to us. It seems highly probable, however, that many of them produce their effects by virtue of an astringent quality. We, at least, find that not a few of the astringents, such as Uva Ursi*, some species of Geranium, &c., do give relief in many cases of nephritis and calculus†. Dr. Cullen imagines, that the astringents act, in this case, by absorbing an acid in the stomach‡. But this appears to be a frivolous theory,

* See page 3.

† J. H. Heucher.

‡ A Treatise of the Materia Medica. Vol. II. p. 13, &c.

unsupported by any respectable body of facts. The mode of operation of the astringents, is not completely understood; and in ascertaining the fact, that these medicines are antilithics, we have only advanced one step towards the discovery of truth. But whatever may be the precise manner of acting of the astringents in cases of nephritis and calculus, we are certain, that an antilithic property belongs to many articles which have little or no claim to the character of astringents. Such are some of the plants of the genus *Allium*, or Garlic, as the Leek (*Allium Porrum*), &c.: also, carbonic acid, and carbonate of soda, not to mention several others.

It is much to be regretted, that this most important subject should still be involved in so much uncertainty, notwithstanding the late laborious and ingenious inquiries of Fourcroy, Pearson, and other philosophers, who have favoured us with the results of their experiments, relative to the analysis of human and other calculi. But on this subject much remains to be done; and although it is not probable, that we shall soon, if ever, discover a *solvent* for calculi in the body, it is highly likely, that a more extensive and correct acquaintance with the intimate nature of these concretions, will, in time, conduct us to a knowledge of the means of *preventing* their formation.

I HAVE but little to say on the subject of particular Antilithics. Indeed, it must be confessed, that our catalogue of articles that are deserving of this title is very small.

Of the *Uva Ursi*, I have already taken some notice*. I have also observed, that the *Pyrola umbellata* has been

* See Part First, p. 9, 10. See also page 3, of the present part.

employed with advantage in nephritic affections*. The good effects of the kernels of *Corylus Americana* have been noticed†, as have those of the Philadelphia Flea-bane, or *Erigeron Philadelphicum*‡. I have not, however, employed any of these articles in the disease of nephritis, except the *Uva Ursi*, which is, unquestionably, a valuable antilithic. I have often prescribed this medicine, and have known it to be useful, even when it was ascertained that a calculus was present. It is certain that it does relieve the disagreeable symptoms which are the consequence of the irritation of a stone; and some facts which have come under my own observation, independently on those which I have met with in medical authors, have led me to believe, that the use of this astringent medicine facilitates the expulsion of calculous granules, through the urethra. In what manner this effect is accomplished, I am unable to say. I must add, however, that in *some* nephritic cases, *Uva Ursi* seems to increase the irritation which it so *generally* relieves.

I HAVE already observed, that the root of *Convolvulus panduratus* “ has been much recommended in cases of “ gravel§.” Since the publication of the former part of the *Collections*, I have received some additional and more certain information on this subject. In particular, I have learned, that an infusion or decoction of the root has been often used by a physician¶¶ of New-Jersey, who has found the medicine very useful in his own case. He is persuaded, that it has enabled him to pass the calculous granules, with much facility.

* See p. 2, 3.

† See p. 3.

‡ See p. 46.

§ See Part First, p. 54.

¶¶ Dr. Harris.

SECTION IX. ANTHELMINTICS.

It has been asserted, that Worms, as constituting a disease, are more common in America than in Europe. I suspect that there is some foundation for this assertion, though I am sensible, that the assertion ought to be received with some hesitation. A larger body of facts should be collected, before the truth can be completely established.

I HAVE already observed, that the Indian children, in some parts of the United-States, are very “subject to worms, and to the *larvæ* of insects, introduced into the system, along with their crude, and often unwholesome, aliment*.” It is, moreover, a fact, that great numbers of these children fall victims to the diseases induced by worms. This is acknowledged by many of the Indians with whom I have conversed. The Oneidas preserve a very curious tradition concerning one of these epidemick worm-fevers, and inform us, that in consequence of the destruction which it occasioned among their children, the nation relinquished a station which it had long occupied, on the margin of the Oneida-Lake, and took possession of another, at some distance from the Lake. It has, however, been asserted by some ingenious writers, that diseases from worms are unknown among the Indians†. My own observations and

* See Part First, p. 37, &c.

† Dr. Rush says, he “cannot find any accounts of diseases from worms, among the Indians.” “Nor does dentition (he observes) appear to be a disorder among the Indians. The facility with which the healthy children of healthy parents cut their teeth, among civilized nations, gives us reason to conclude, that the Indian children never suffer from this quarter.” See An Oration, &c., containing an Enquiry into the Natural History of Medicine among the Indians of North-America, &c. &c. p. 26. Philadelphia: 1774.

inquiries lead me to adopt a very opposite opinion. Indeed, the children of the Indians seem to suffer not much less from worms, and from dentition, than the children of the Europeo-Americans.

WHATEVER foundation there may be for the assertion, that worms are peculiarly common in North-America, it will not be denied, that the subject of Anthelmintic medicines is one well worthy of attention. On this account, I shall introduce into this place a few additional notices on the subject. I begin with those vegetables which are most obviously characterized by a tonic quality.

A STRONG decoction of the bark of the *Prunus Virginiana** has been employed, with a good effect, in some cases of worms. Whether this bark operates by any other than by a tonic quality, I am unable to say. It will not be denied, that many of the bitter tonic medicines are, on many occasions, excellent anthelmintics. But I am very far from believing, with some ingenious writers†, that the tonic medicines are always the best anthelmintics. In the epidemic verminose fevers, which often prevail in the marshy tracts of country, and are evidently owing to the same causes that induce common intermittents and remittents, the Peruvian bark and other similar medicines may be used with peculiar advantage. Moreover, tonics are at all times properly exhibited, with a view to prevent worms from increasing in the system. But many articles that are not at all, or at least very inconsiderably, tonic, are among the most valuable anthelmintics with which we are acquainted.

* See p. 21, 22,

† Mr. James Moore. "Bark (says this author) is perhaps the best of all worm-powders." *An Essay on the Materia Medica, &c.* p. 148. London: 1792.

THE *Veratrum luteum**, commonly called Devil's bit, and Blazing Star, is entitled to notice. The root of this plant is a very pungent bitter, and is employed as a tonic, in some parts of the United-States. A spirituous infusion of the root is made use of. A tea, or watery infusion, of the root is often used, and is deemed an excellent anthelmintic. I presume, it does not operate merely by virtue of its bitter or tonic property. A narcotic quality seems to belong to this vegetable, and I am inclined to think, that its good effects, in cases of cholic, and perhaps, in cases of worms, are, in part at least, owing to this quality.

A WATERY infusion of the twigs and leaves of the *Laurus Benzoin*, formerly mentioned†, is often given to children, with a view to destroy and dislodge worms, and is deemed an efficacious medicine in this case.

THE root of the *Sanguinaria Canadensis*, exhibited with a view to its emetic effect, has, in some instances, dislodged worms from the stomach. Future experiments must determine, how far this active article is entitled to the character of an anthelmintic. Perhaps, *Ipecacuanha*, or any other emetic, would be found equally beneficial, in similar cases.

IN the course of my journey through Virginia, in the year 1802, I was informed, that the *ripe* fruit of the *Per-simmon* (*Diospyros Virginiana*‡) has often been found very useful in the worm-cases of the negro and other

* I take this plant to be the *Melanthium dioicum* of Walter. See my *Elements of Botany*, &c. Part Third, p. 157, &c.

† See Part First, p. 20.

‡ See Part First, p. 11.

children. I cannot discover any thing peculiarly active in this fruit, in the condition in which it is employed as an anthelmintic. Perhaps, it operates solely by virtue of a laxative property.

I CONTINUE to use and experience the good effects of the *Melia Azedarach**. I believe this is one of the most valuable anthelmintics, that has hitherto been discovered. Of late, the dried berries have been advantageously employed as an anthelmintic, in Carolina. With a view to this effect, children are permitted to eat the berries, without any particular regard to the dose. They are, by some, deemed as efficacious as the bark of the tree. I have employed the powdered leaves, but am not yet prepared to offer a positive report concerning their comparative powers. On the subject of the anthelmintic and other properties of the *Melia*, the reader will do well to consult my friend, Dr. G. Duvall's Inaugural Dissertation†.

* See Part First, p. 39, 61, 62, 63.

† An Experimental Botanico-Medical Essay on the *Melia Azedarach* of Linnæus. By Grafton Duvall, of Maryland. Philadelphia: 1802.

THE END.

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week of July.

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